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ABSTRACT

Two counseling approaches, which differ on how to help a client make a realistic decision, are evaluated for their relative effectiveness. Fifty subjects, randomly selected from a population of students which expressed a need for educational/vocational counseling were assigned to either the reinforcement or the persuasive advice-giving treatment condition or to a control group. Actual counseling in educational/vocational decision-making comprised the experimental task, for which 4 counselors were trained to use either verbal reinforcement or advice-giving. Counselor training, actual interviews and interview evaluation are discussed. Numerous results are reported which point to the superiority of reinforcement as a technique for producing and increasing information-seeking behavior both in the interview and outside of it. The author concludes that reinforcement counseling aids the client's learning a central step in the decision-making process which is transferable to other situations. (TL)

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The Differential Effects of Reinforcement and Advice-giving on Information-Seeking Behavior in Counseling*

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A general goal in counseling is effecting change "in the client", a goal which implies that counseling is a learning "process" (Rogers and Skinner 1956, Tyler 1961, and Krumboltz 1964). But there is no consensus among the advocates of different approaches on the specifics of what is to be changed and consequently what constitutes the learning process, i.e. what specific conditions or techniques do effect what specific change. Most, if not all, traditional approaches are taking the safe stand of abstract global, ambiguous and scientifically undefinable concepts (Freud 1920, Ansbacher 1956, May, et al 1958, Rogers, 1959).

It is not until the behaviorist's contribution that specificity in goals and techniques or conditions leading to these goals began to be recognized (Greenspoon 1956, Krumboltz 1966, Bandura 1969). Among the many possible specific objectives in vocational counseling is helping the client to make a realistic decision concerning his future and career development. This objective is recognized by a wide variety of approaches and it has been advocated by counselors such as Parsons, F. 1909, Berdie 1954, Williamson, 1961, Wrenn 1962, Miller 1961, Gelatt 1962, and Thoresen 1964. "Because one of the fundamental activities of human beings is the making of choices (Tyler, 1961 p. 1)," the person shapes the pattern of his life by the choices he makes at successive stages and especially in his middle and late adolescent years (Super, 1963, p. 82).

While there may be some variations among the students of the decision-making process there is a consensus among them that information searching (organizing, evaluating and usage) is a central or crucial step in the process (Cronbach and Glaser, 1957 p. 16-27, Galatt 1962, Girshick 1964, Bross 1953 p. 145, Whyte 1969 p. 688, Szyest and March 1963, p. 73, Tyler 1961, Miller 1968, and Bergen 1956).

But counseling approaches differ on how a client can be helped to make a realistic decision. Two of these approaches are under consideration in this study. One advocates that suggestion and persuasive advice are effective in helping the client in decision-making, and the other approach advocates that a wise and realistic educational and vocational decision can best be achieved by applying operant learning techniques (reinforcement counseling).

The main conditions of the advice giving approach are the counselor's expertise and the accumlative record about the client and his environment. This approach is traditionally advocated by Frank Parsons, 1909, Hoppock 1957,

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CG 006 737

Williamson 1950 and by Thorne, 1950, 1968, and Ellis, 1962). The use of suggestion and advice-giving in counseling has existed and survived for generations since the ancient Egyptians created educational and vocational guidance and occupational information and until its rediscovery by F. Parsons in 1908 throughout today without hardly any serious study to challenge the assumptions and the advocates' speculations about it. The writer's experience with college freshmen in counseling raised some doubts about the efficacy of this technique. It has been found that a majority of those freshmen who seek or were referred to counseling for a change of major or reconsideration of their educational-vocational choice have reported that "it was my counselor's advice". That statement, if verified, would demonstrate the wide-spread use of advice-giving in high school counseling.

Few studies which used suggestion or advice-giving in conjunction with other techniques. Woody was able to show that suggestion has an enhancing effect on modeling techniques when he attempted to desensitize patients from fear of snakes. He found that his presentation of a video-tape model in conjunction with suggestion was more effective than the use of modeling alone (Woody, 1969). In what was labeled motivational-counseling, Serene (1953) used advice-giving to sensitize underachievers to the discrepancy between their ability and their accomplishment. To help them understand how to study effectively, he found that the advised group improved in their achievement more than the control group. Unfortunately the design of this study lacked precision, failed to present a specific procedure, and a clear definition of the variables used and did not apply any statistical text to demonstrate the level of significance of his results. The same label (motivational-counseling) was used as one treatment by Baymur and Patterson, 1960 in their study of high school students. In this treatment the students were informed of the fact that they were under-achievers and were encouraged (persuaded) to work to reduce the gap between their potential and their achievement. The other treatments were client-centered, non-directive and non-active controls. They reported no significant results of over-all analysis of variance, but they indicated that the client-centered treatment may account for some gain in the grade point average. The results indicated, too, that neither persuaded nor controlled groups showed improvement on criteria and of adjustment to school or in study habits and attitudes. Kanter and Marston (1964) used built-in persuasive advice in interpretation and discussing the dynamic causation and historical relations and reflections as two separate techniques. Their results indicated that subjects showed significantly more positive attitude toward E who used reflection than the Experimenter who delivered the persuasive advice. Adams and his associates who ran a comparison between a.) minimal group reinforcement b.) psycho-analytic interpretations to point out contradictions between expressed feelings and unconscious mechanisms (persuasion) c.) to point out positive reflections on the subject's ego and d.) mere reflections of the apparent feeling. Adams reported that reinforcement was the most effective technique in increasing the frequency of the dependent behavior. Furthermore, they indicated that persuasion and reflection decreased the probability of the critical response. (Adams and associates, 1962 and 1964). To conclude, studies on advice-giving in counseling are rare, and evidence on its efficiency in counseling is controversial or rather not established, yet the technique still is widely used.

Reinforcement behavioral counseling, especially reinforcement counseling, is concerned with helping a client to learn the decision-making process itself. Not only helping him to make a decision in a specific situation, but also to help the client to define his goals and to engage in the basic steps of the process of decision-making and to learn "to use the sequence of problem-solving steps (Krumboltz 1966)." There is substantial evidence on the effectiveness of reinforcement in counseling and psychotherapy in general and in decision-making counseling

in particular. It has been demonstrated that verbal reinforcement is effective in increasing the desirable behavior in a variety of settings especially when delivered with positive non-verbal behaviors, in quasi-clinical settings by researchers such as Greenspoon (1956), Taffel (1952), Rogers (1960), Dicken and Fordham (1967), Kennedy and Zimmer (1968), or in actual counseling and clinical interviews among a wide variety of clients as evidenced by Salinger and Portnoy (1964), Cohen and Cohen (1960), Atkinson (1961), Truax (1966 and 1968), Baer (1967) and Reece and Whitman (1962).

With regard to decision-making in counseling in educational-vocational planning, three studies are of specific interest. In an O.A.E. (Operant, Acquisition, Extinction) model experiment, Rayan (1963) found that verbal reinforcement has a significant positive effect in changing the client's behavior toward more deliberation and decision responses in the acquisition period. The reinforcement effect was found to be generalized to other conflict situations (story completion task) where a decision or a deliberation response has to be made.

The second and third studies were conducted separately by Schroeder and Thoresen. Both experimenters used the same basic experimental design, similar independent and dependent variables, and the same trained counselors. Both experimenters, each in his study, used verbal reinforcement, social modeling, individual and group counseling, and their effects on information seeking behavior as a basic step in educational/vocational decision making. Schroder (1964) used verbal reinforcement in one treatment and verbal reinforcement combined with modeling in another. His results indicated that verbal reinforcement groups were engaged in more information seeking behavior in and outside of the interview than the control group. Plain verbal reinforcement was more effective with females while a combination of modeling and verbal reinforcement was more effective with males. In addition to these treatments, Thoresen (1964) added a third experimental group in which he presented a videotaped model followed by verbal reinforcement. His design included a replica of each treatment on individual and group counseling. Thoresen's results confirmed Schroder's and, furthermore, demonstrated that group and individual verbal reinforcement counseling were equally more effective in engaging the students in information-seeking behavior in and out of the interview higher than did the control group. (Thoresen and Krumboltz, 1967, 1968)

The present experiment was designed to evaluate the relative effectiveness of persuasive advice giving and verbal reinforcement in counseling on information seeking behavior as a crucial and necessary behavior for decision-making process in educational/vocational counseling. Because there was some evidence from the field of mass communication that self-esteem is a variable which might affect the outcome of persuasion and advice, it was decided that self-esteem be controlled.

Method

The basic design is a 2 x 2 factorial nested design for two experimental treatments, i.e., reinforcement and persuasive advice-giving and two levels of subjects' self-esteem (high and low). The dependent variable, information seeking behavior, was classified into two levels; verbal information seeking response within the interview, (ISR) and actual activities of information seeking behavior outside the interview (ISB). The final design contained a two-level analysis of variants; one is 2 x 2 (2) for the comparison of verbal information seeking behavior within the interview for the two treatments, each treatment was performed by two counselors (nested) and two levels of self-esteem of subjects. The other

analysis of variants is a 3 x 2 (2) where a no-treatment control group was added for comparison of information-seeking behavior (ISB) outside the interview with the experimental treatment groups. Each cell contained 5 subjects.

Self-esteem was measured by a short form of self-esteem scale developed by Rosenberg (1965). This test was administered on a population of 376 freshmen at the General College, University of Minnesota, and the scale was found, as expected, highly correlated with Leary's Depressive Affect Scale (Leary, 1957), and with Star's Psychosomatic Indicators of Neurosis Scale (Star 1950).

Subjects

Out of the test population, 135 students expressed a need for educational/vocational counseling on a special form. A random sample of 50 subjects were selected, 25 in each self-esteem level, high and low. These subjects were randomly assigned to treatments (reinforcement, advice, and control) and counselors.

Treatments

The experimental task was to provide actual counseling in educational/vocational decision making. The counseling treatments were applied in two counseling sessions, one week apart. Four counselors were trained especially for conducting this experiment, two to use verbal reinforcement, and the other two to apply persuasive advice-giving. A detailed procedure was developed for each interview under each treatment to be used by the counselors. The first interview, the counselors were advised to maximize the use of "cues" and "prompting" (open-ended questions) in the first three to five minutes to the subject in order to help him explore the possibilities of the number of alternatives open to him. The reinforcement counselor was to let the subject be aware of possible alternatives to bring him to a "dilemma of choice" and to come to the discovery of a need for collecting information from a variety of sources. Then the reinforcement counselor should maximize his reinforcement promptly whenever the student expressed an information-seeking response or any of its approximations. The advice counselor proceeded in the first five minutes in almost the same manner to bring the subject to a dilemma of decision, or to indicate to the subject a number of possible alternatives, then he was required to use advice-giving technique in order to maximize the persuasive power of his advice. The Counselor used whatever information was available about the student and pointed out the importance of information to a realistic decision. The counselor's advice was limited to advising the subject of collection of information from a variety of sources.

At the end of each interview, a summary of the interview behaviors was necessary. In reinforcement counseling, the summary was done with the help of the counselor's "cues" and/or "prompting questions" to elicit the steps and plans of information-seeking behavior which was brought by the subject while the counselor was constantly reinforcing each information-seeking response expressed throughout the summary. In the advice treatment, the counselor summarized the plans and suggestions which were made throughout the interview and pointed out to the subject the importance of collecting the information until he would see him the next time.

The second counseling sessions proceeded like the first one, with the maximum use of the assigned technique. A third structured interview took place within a

period of two to three weeks after the second counseling session. All 50 subjects of the sample, experimental and control, were scheduled for this interview, in which a self report of information-seeking activities outside the counseling interviews was elicited on a pre-structured interview questionnaire.

Counselors: Four counselors from the Counseling Bureau in the General College, University of Minnesota, volunteered to administer the experimental treatment, two counselors volunteered for each treatment. The counselors were three males and one female. Three of them were Ph.D. candidates in counseling psychology in the College of Education, University of Minnesota. They had already completed their practicum and were in second year of their counseling internship in the same office. The fourth was a Ph.D. in counseling psychology. The counselors were engaged in the experiment blind of the personality variable and its levels which was used in the experiment. The counselors were trained in five major steps - 1. reading materials on decision-making, the dependent variable in this experiment, and on their assigned treatment. 2. Group discussion. Then each two counselors independently discussed their assigned treatment with E. 3. Conducted role-playing interviews according to the assigned treatment. 4. Actual counseling with regular students in the college. All interviews were tape-recorded. 5. Analysis, evaluation and feedback of these tape-recorded interviews were discussed by Dr. Clyde Parker, professor and chairman of the counseling department, counseling education, and Dr. Gordon Kingsley, the chairman of the counseling and personnel office in the General College, and E. The criteria for the evaluation were as follows: 1. for the reinforcement counselors: (a) Speed of recognition of the information-seeking response and its approximations. (b) The prompt reinforcement of each information-seeking response and its approximations. (c) The reinforcement contingency. (d) The use of cues and prompting. (e) The use of a variety of reinforcing stimuli from a provided reinforcement menu. (f) The use of nonverbal behaviors in conjunction with the verbal reinforcement. 2. For advise-giving counselors: (a) Proper use of advice. (b) Advice should be limited to information-seeking behavior. (c) Refrain from other advice as much as possible. (d) Advice of a specific choice or objective is not encouraged in the interview. (e) Advice should be made persuasive by the use of other information. (f) Use of leading questions or cues to encourage continuous verbal interaction to lead or direct verbal behavior in the interview.

Raters: Two counselors from the counseling office at Rochester State Junior College in Minnesota carried the content analysis of the tape recorded counseling interviews of the experimental treatments. They all have their M.A. in counseling and no less than five years of counseling experience. They also have experience in listening to taped interviews. E prepared and gave them a detailed written statement which included the definition of variables and the detailed procedure of analysis: (a) The rators and E read and discussed this. (b) E conducted training sessions with rators in the analysis of role-playing and actual training interviews which were taped with the treatment counselors. All questions were answered on the defintions of variables and the identifying of categories was exhibited; then the rating started.

Measures: The main measure of the dependent variable was: (1) The frequency of the information-seeking response within the interview; and (2) the frequency and categories of information seeking behavior outside the interview within the experimental period. (3) The talk ratio within the interview (S/C). (4) The relationship of the reinforcement or advice to information-seeking response.

(5) The relationship between information-seeking responses within the interview and information-seeking response behavior outside the interview.

Interview Analysis

Eighty prerecorded interviews were assigned randomly to each of the two raters. They performed the analysis unaware of self-esteem levels and treatments. Raters used the standard form on which each computed the frequency of each category of a functional unit (SU) in order that the interview unit frequencies be treated statistically. The tapes were listened to and the frequency of each functional statement unit was decided. The raters were looking for the frequencies of the following variables: (1) (ISR): Information Seeking Response (2) (SSad): Student seeking advice (3) (SOR): Student Other Response (4) CR (ISR): Counselor Verbal Reinforcement of ISR (5) CR (SOR): Counselor reinforcement of student other responses than ISR (6) CQ: Counselor cu- and prompts (7) CAD (ISR): Counselor Advice of ISR (8) CAD (): Counselor Advice of other behavior (9) COR: Counselor other response.

Table (1) shows the high inter-rater reliability for each interview behavior on a sample of 30 interviews.

Information seeking behavior (ISB). Interviewers: Four head residence counselors in residence halls at the University of Minnesota volunteered to conduct the structured third interviews. They are all graduate students, (2nd and 3rd year), two males and two females. One of them was in educational psychology; two in humanities, and one in history. They all have experience as resident counselors. They met with E and after discussion and explanation of the details of the interview schedule questionnaire, each one performed two role-playing interviews, one as a client and the second as a counselor with another interviewer under E's supervising all questions and problems. These questions and problems were discussed and cleared. The interviewers were completely blind of treatments and self esteem levels of each subject.

Interview questionnaire

The interview questionnaire was composed of 54 items; 25 of them were to compare the frequency and variety of information seeking behavior. The other 29 items were there for identification, demographic, and personal information, students subjected evaluation of the counselors characteristic during the interview and other supplementary information that might be useful in interpreting the results. The variety and categories of information seeking behavior was as follows: (1) writing; (2) reading; (3) talking with other persons; (4) seeking self knowledge; (5) visiting, actual or in planning; (6) listening to or viewing the audio visual media; (7) job exploration (p-t or summer).

Verification of Self-Reports

Ten interview questionnaires were randomly selected, one from each cell, to be verified. Verification took forms such as telephone calls, checking library records, checking certain magazines or journals or books, checking the T.V. and radio guides and programs. Results of the validation search are presented in table (2) which demonstrates that a significantly high percentage of reported information seeking behaviors were highly valid.

SUMMARY OF RESULTS

The following is a summary of the major results of testing the research hypotheses and other auxillary results.

I. The main analysis consisted of two analyses of variance of a two way nested design, for a dependent variable which is classified into two categories: (a) information seeking response (within the interview) and (b) information seeking behavior (outside the interview). Other auxiliary variables were studied, such as talk-ratio, request for advice, and the correlation between information seeking response and information seeking behavior.

II. Twelve hypotheses were tested and the analysis yielded the following results:

1. There was a significant effect of treatment on information seeking response (within the interview), which indicated the superiority of verbal reinforcement counseling over persuasive-advice counseling. (Table 3). While reinforcement was administered, almost without contamination with advice, (.04), the advice counselor could not avoid contaimination with reinforcement (.38). Moreover, it has been found that there is no relationship between the subject's request for advice ($\bar{X}$= .30) and the giving of advice ($\bar{X}$=29) and Table 4. In other words, the advice-counselor advised the student not necessarily upon the latter's request. Though they have been instructed to elicit the subject's operant and help him to come to a dilemma of decision, where the student might be encouraged to ask for an opinion, a suggestion or a direct advice, and the counselor was requested to answer these requests. (Hypothesis I).

2. The relationship between self-esteem levels and information seeking response was found to be more significant (low F-ratio), but the differences between means indicate a direction in favor of high self-esteem. But maybe the narrow distribution of SE scores among the sample subjects, the multidimensionality of the self-esteem, and the complexity of the relationship between the trait and influenceability lead to a suspended judgement regarding this relationship. (Coopersmith 1967, Cohen 1959, McGuire 1967). (Hypothesis II).

3. There was not any significant two or three way interaction between the independent variables, but there was a trend in the difference between the means that was in favor of high self-esteem and reinforcement interactions. (Hypothesis III). Between counselors within treatment, the trend of the effect was against one of the advice counselors whose students produced a significantly low information seeking response. (Tables 5,6)

4. Information seeking behavior outside the interview was significantly greater in the experimental treatments over the non-counseled control group. Those who were counseled engaged in significantly more categories and higher frequency of information seeking behavior outside the interview (Hypothesis IV). (Table 7)

5. Among the experimental treatments those who were counseled by verbal reinforcement were engaged in significantly more variety and frequency of information seeking behavior (outside activities relevant to their decision making) than those who were counseled by persuasive advice-giving. It was assumed that the reinforced response (which was strengthened) within the interview is capable of generalization to other situations. (Hypothesis V) (Table 8 & 9)

6. Other effects on information seeking behavior were not demonstrated. Neither self-esteem levels, (Hypothesis VI) nor the counselors within treatment, nor the interactions of self-esteem treatment (Hypothesis VII), nor the three way interactions were found significant.

7. Generalization: There was a linear correlation between information seeking response and information seeking behavior among the counseled groups (experimental). This correlation was significantly positive among those who were counseled by reinforcement (r=.66). This was interpreted to be another support for the generalization effect. Among those who were counseled by persuasive advice, the correlation between their information seeking response (within) and their information seeking behavior (outside) was negative, though not significant (r=.28). A qualification was discussed for the partial contamination of the advice treatment by reinforcement. (See 1 above) (Hypothesis VIII).

8. In general, students rated the counseling experience (through rating their counselor) as helpful. There was not any significant differences in the rating of counselors by the students, neither by treatments, by self-esteem levels, nor by counselors within treatments but the three way interaction was significant, i.e., treatment, counselors, and self-esteem levels. This result indicates the complexity of the student's perception of his counselor. There are at least three dimensions to be taken into account: a counselor, a student, and the relationship between them in the interview and the technique which was administered. It is interesting to observe that students under reinforcement treatment perceived their counselors less persuasive and less interested in giving direct advice, but on warmth, understanding, acceptance, and reward, the students in both treatments perceived their counselors alike. The difference between student ratings on all characteristics was actually a very small fraction of a grade point. There was no relationship between the characteristic, helpful, and the first three ones: warmth, acceptance and understanding. (Figures 1 & 2) (Hypothesis IX)

9. In three successive but separate, periods in the interview, there was a linear relationship between treatments and information seeking response.

   A. Reinforcement was significantly correlated positively with information seeking response, while advice was negatively correlated with information seeking response. It may be that this negative correlation was not significant because of the contamination of the advice treatment with reinforcement.

   B. Cues were found positively correlated with information seeking responses when they were in reinforcement counseling, but they were negligibly correlated with the critical response when they were used in advice-counseling. (Hypothesis I-A). (Figures 3, 4) and table 10.

10. Talk Ratio: There was a significantly ($P \leq .0001$) higher subject talk ratio in the reinforcement counseling than in the advice-counseling. ($F=16.77$) (Hypothesis II-B) (Difference in the dynamics of each type of the counseling interviews.) Ratio in Sr 95%, Adv. 72%.

11. There was no support for the auxillary hypothesis III-A which predicted self-esteem effect on subjects talk ratio in favor of high self-esteem. The result was qualified (See 2 above).

12. Within the limitations of the study, it may be concluded that this experiment demonstrated that verbal reinforcement counseling is superior to persuasive advice counseling in producing and increasing the frequency of information seeking response in the interview, and it was superior in that the counselees continued to engage in similar behavior outside the interview more frequently than those who were counseled by persuasive advice, a behavior which is necessary for a good decision-making process. It demonstrated that reinforcement-counseling helped the client to learn a central step in a process that might transfer to other situations that require a decision to be made. Self-esteem levels - in this study - did not contribute a significant effect because the two groups were not separated enough in their self-esteem score, and because of the complexity of the trait.

Finally, it might therefore be speculated that, contrary to normal interpretations, the actual dynamics of the reinforcement counseling interview is geared toward human dignity and the integrity of the individual. This could only take place where the subjects are treated as active partners in the learning process and not passive recipients of wise advice. The stage is set for the counselor and the student in reinforcement counseling to mutually affect each other's behavior, and therefore be mutually responsible. In advice counseling, the counselor is the only source of behavioral control.

In the reinforcement interview the counselor facilitates the student's talk, brings him to a dilemma of learning, helps him to define his objectives, and rewards his creative response to disciver his path toward a realistic goal. (Bradfield 1970, Thoresen 1967).

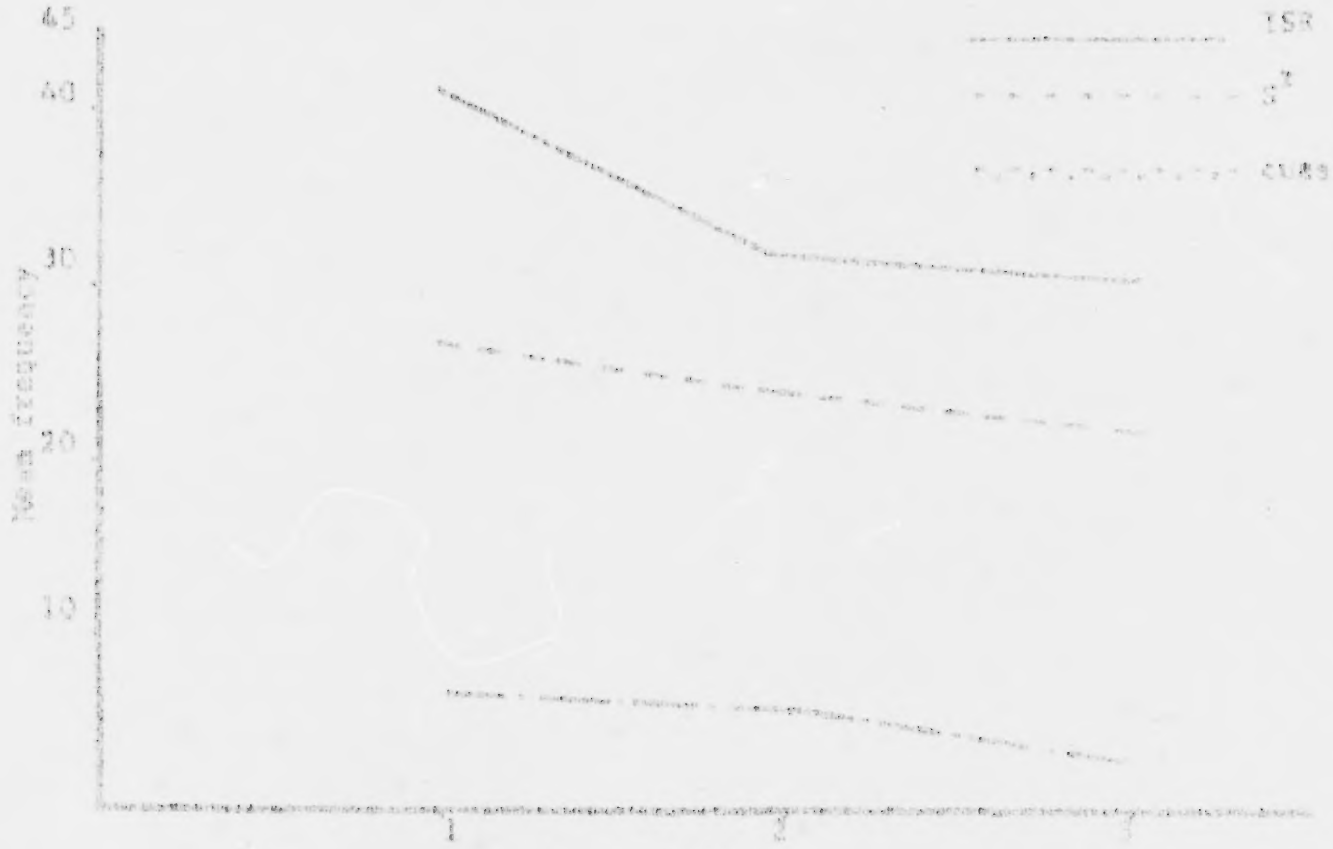

Fig. 3 Mean frequency of information seeking response, reinforcement and cues in three successive periods within the reinforcement counseling interviews

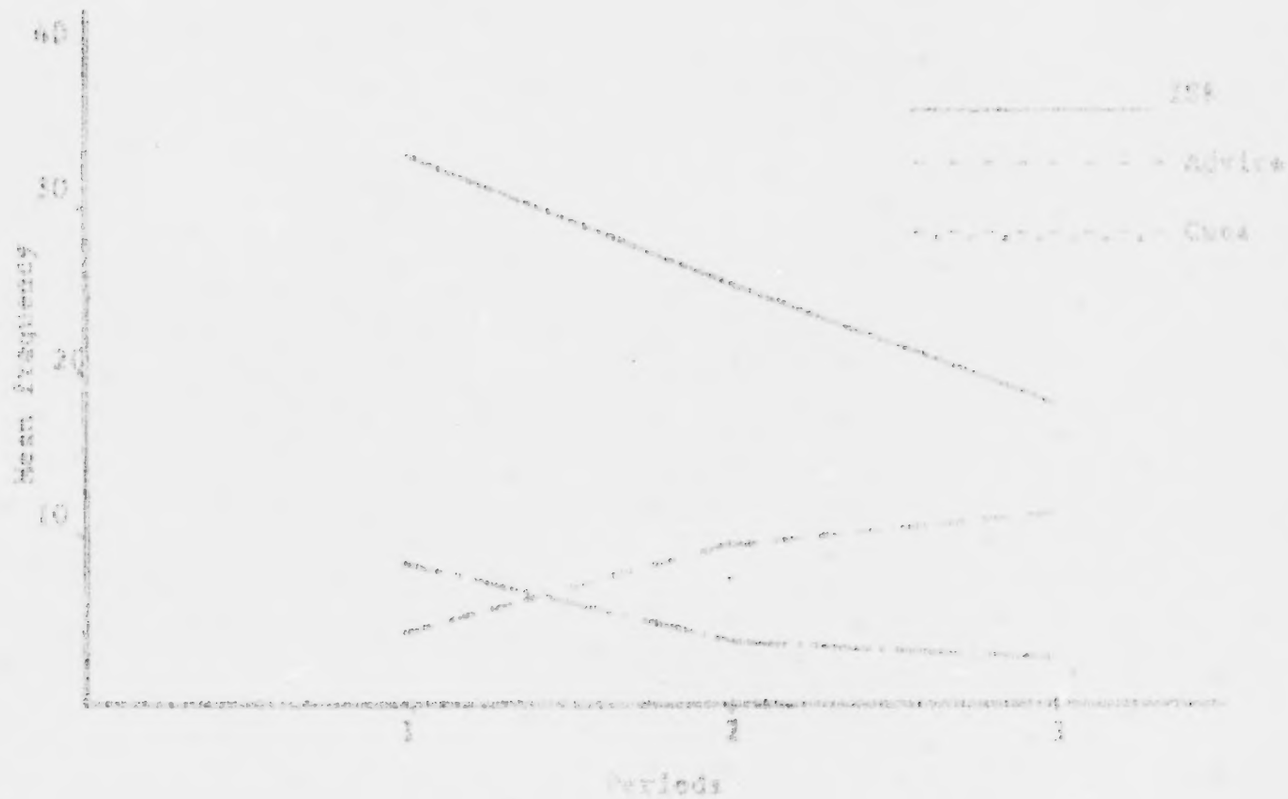

Fig. 4 Mean frequency of information seeking responses, advice-giving and cues in three successive periods within the advice counseling interviews

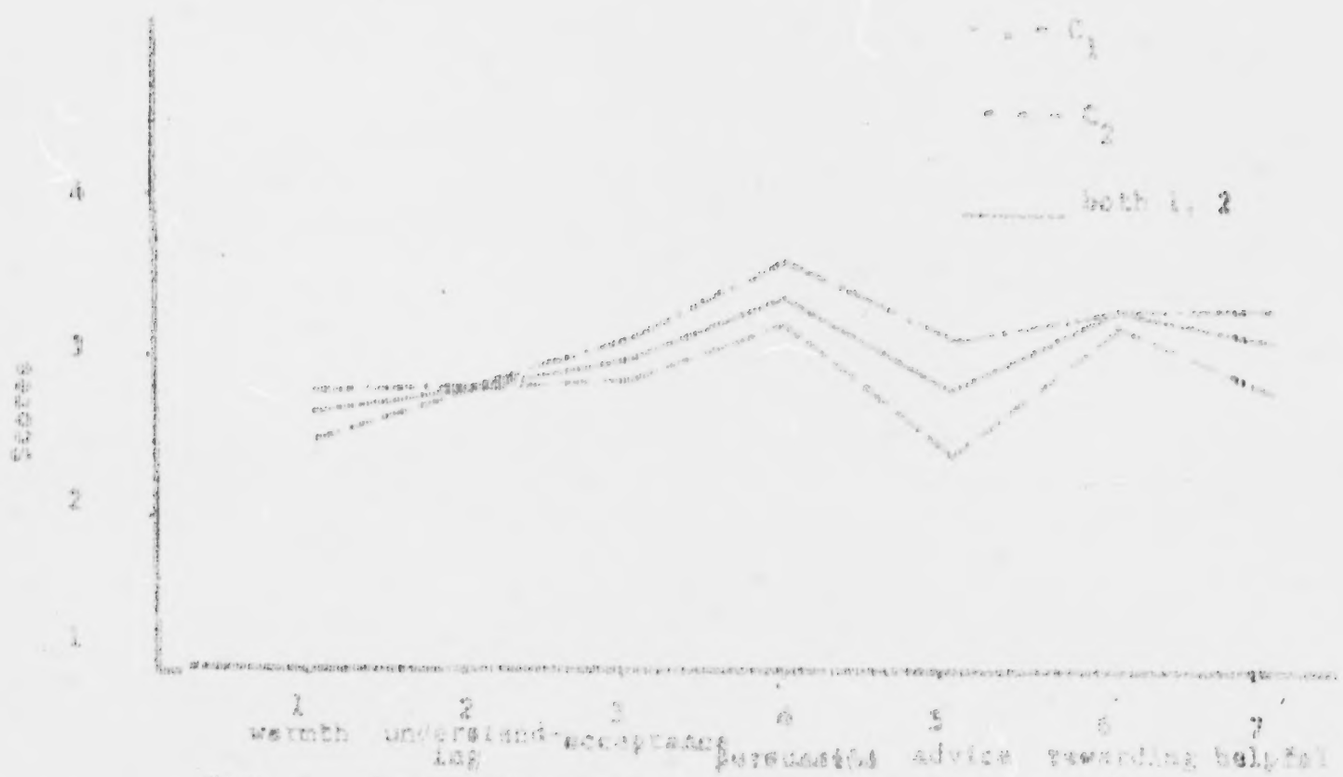

Fig. 2. Mean rating of Counselor characteristics

within advice treatment

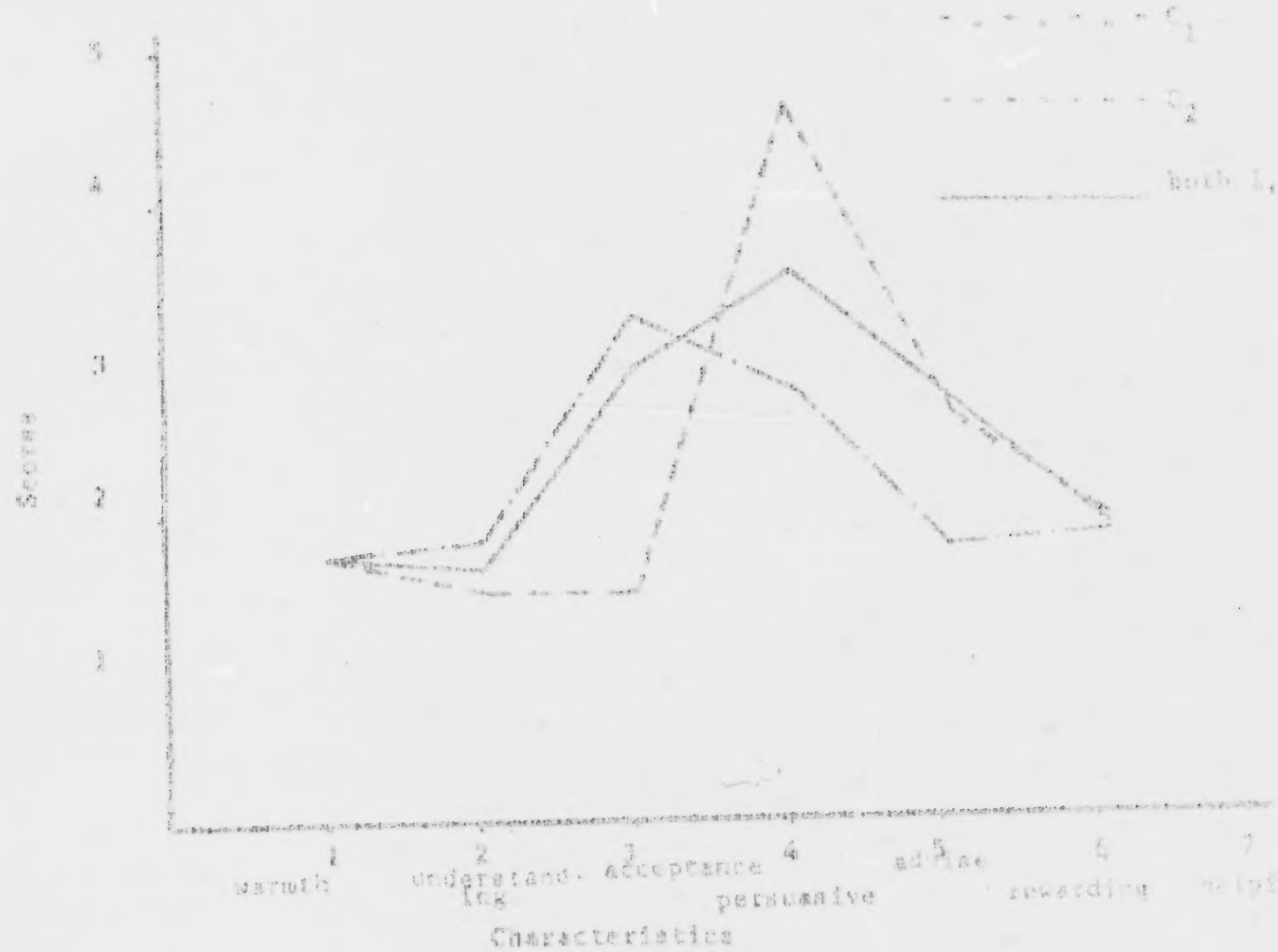

Fig. 1. Mean rating of Counselor characteristics within reinforcement treatment

TABLE 1

Inter-rater reliability by categories of statement units

Verbal Behavior Categories	$R_1 - R_2$ Interview I	$R_1 - R_2$ Interview II
Student Verbal Behavior		
Information seeking response (ISR)	.97	.94
Student seeking advice (SSad)	.08	.33
Student other response (SOR)	.95	.93
Subtotal student statement units	.97	.95
Counselor Verbal Behavior		
Counselor Reinforcement of ISR (contingent)	.97	.99
Counselor Reinforcement of other (SOR)	.88	.93
Counselor Cues (CQ)	.96	.92
Counselor Advice of ISB (Cad (ISR))	.99	.98
Counselor Advice of Other Behavior (Cad (O))	.94	.86
Counselor Other Responses (COR)	.97	.95
Subtotal of Counselor Statement Units	.94	.96
Total out-put of Statement Units	.96	.98

TABLE 2

Verification of Reported Information Seeking Behavior

Variety of I.S.B.	Reported F	Verified positive F	%	Not Verified	Unverifiable F	%
1. Writing	3	3	100	-	-	-
2. Talking	79	65	83	-	14	17
3. Reading	46	40	9[illegible]	-	6	13
4. Listening or watching	3	3	10[illegible]	-	-	-
5. Self-Knowledge	2	2	10[illegible]	-	-	
6. Visiting	17	11	7[illegible]	-	6	[illegible]
7. Job Exploration	8	[illegible]	7[illegible]	-	2	25
TOTAL	158	[illegible]	[illegible]	-	32	18

TABLE 3

ANALYSIS OF VARIANCE

of Information Seeking Response

(Experimental Treatments)

Source	DF	MS	F
Treatments (A)	1	10534.05	4.64*
Self-Esteem Levels (B)	1	3725.45	1.64
A X B	1	3438.45	1.52
Counselor (Treatment) C (A)	2	4838.80	2.13+
B X C (A)	2	2171.29	
A X B X C (A)	32	2267.29	
Interview (D)	1	2342.8	4.91*
A X D	1	9.80	
C (A) D	2	552.5	1.09
B X D	1	125.0	
A X B X D	1	80.0	
B X C (A) X D	2	521.3	
A X B X C (A) X D	32	536.29	

* $P < .05$

** $P < .01$

+ Approaching significance $P < .10$ ($F_{(2,32)}^{.05} = 3.47$)

TABLE 4

Correlation Coefficients of

(1) Student seeking Advice, (2) Advice of ISA,

and (3) Advice of other activities

in the Advice Treatment

Interview Variable	1	2
1. Student Seeking Advice		
2. Counselor's Advice of ISA	.10	
3. Counselor's Advice of other activities	.10	.75

TABLE 5

Means of Information Seeking Response

by Counselors within treatment

Counselors	Treatments	
	Reinforcement	Advice
1	114.70	74.50
2	121.10	105.40

TABLE 6

Means of Counselor's Other Responses (COR)

in each treatment

Counselors	Treatments	
	Reinforcement	Advice
1	14.85	60.0
2	24.1	52.95
Grand Mean	19.47	56.48

TABLE 7

Analysis of Variance of Total Information Seeking Behavior Between Three Treatments

Source	df	MS	F
Treatment (A)	2	965.413	11.363**
Self-Esteem (B)	1	2.813	
A X B	2	4.763	
Subjects	44	83.342	

** $p < .001$

TABLE 8

The Analysis of Variance of the Total Information Seeking Behavior Between the Two Experimental Treatments

Source	df	MS	F
Treatment (A)	1	330.225	3.44*
Self-esteem (B)	1	7.225	
C (TM) C (A)	2	25.325	
A X B	1	9.025	
A X B X C	2	17.225	
Subjects	32	120.10	

*P<.10

TABLE 9

Analysis of Variance of

Information Seeking Behavior

(Between the Two Experimental Treatments)

I WRITING

Source	df	MS	F
Treatment (A)	1	.50	2.92*
Self-Esteem (B)	1	.10	
C (TRT) (C)	2	.05	
A X B	1	.10	2.14
A X B X C	2	.05	
Subjects	32	.167	

II READING

Treatment (A)	1	58.50	2.91*
Self-Esteem (B)	1	.40	
C (TRT) (C) (A)	2	13.70	
A X B	1	6.40	
A X B C (A)	2	10.40	
Subjects	32	23.09	

III TALKING TO OTHERS

Treatment (A)	1	30.625	1.178
Self-Esteem (B)	1	3.025	
C (TRT) C (A)	2	19.125	
A X B	1	27.225	1.047
A X B X C	2	5.125	
Subjects	32	25.997	

TABLE 9 Continued

IV SELF-KNOWLEDGE

Source	df	MS	F
Treatment (A)	1	2.21	2.89*
Self-Esteem (B)	1	.10	
C (TRT) C (A)	2	.10	
A X B	1	.90	1.28$
A X B X C	2	.40	
Subjects	32	.70	

V-VISITING AND PLANNING VISITS

Treatment (A)	1	2.50	
Self-Esteem (B)	1	2.60	
C (TRT)C (A)	2	3.20	
A X B	1	6.40	2.938
A X B X C	2	10.90	1.769
Subjects	32	6.16	

VI LISTENING AND VIEWING: RADIO AND T.V./EDUC. PROGRAMS

Treatment (A)	1	4.225	1.869
Self-Esteem (B)	1	1.225	
C (TRT) C(A)	2	.425	
A X B	1	.225	
A X B X C	2	3.42	1.513
Subjects	32	2.26	

VII WORK EXPLORATION

Treatment (A)	1	5.625	3.10*
Self-Esteem (B)	1	2.025	1.11?
C (TRT) C(A)	2	3.125	1.72&
A X B	1	1.225	
A X B X C	2	.425	
Subjects	32	1.812	

*P .10

TABLE 16

Correlations of Reinforcement Advice, or Cues with ISR (Within the Interview) in Three Successive (Separate) Periods of the Counseling Interview

	PERIODS			
Correlated Variables	1	2	3	Overall
S^T/ISR	.42	.51	.[illegible]**	.60***
Cues/ISR(S^T)	.47	.60**	.46**	.57***
Advice/ISR	-.56**	-.[illegible]***	-.[illegible]	-.284
Cues/ISR (Adv.)	-.60**	0.29	-.52	.27

(1) Person product moment

** $P < .001$

*** $P \leq .0001$

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